



Truncated Icosahedron

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TOOLS:

- [Drill \(1\)](#)
- [Pencil \(1\)](#)



PARTS:

- [Matching plates, plywood \(1\)](#)
- [3" hinges \(120\)](#)
- [Cotter pins to replace the hinge pins \(120\)](#)
- [T-nut anchors and machine screws \(1000\)](#)

SUMMARY

The most familiar form of the truncated icosahedron in America would likely be the soccer ball, but its history and its influence go far beyond that.

I had always wanted to build a symmetric form and I finally had the time and money to invest in the project. The crux was the angles and keeping the connections somewhat elegant.

Step 1 — Truncated Icosahedron



- I installed a bearing under the structure so that it can spin.

Step 2



- Kids really enjoy climbing and spinning in the ball. It changes one's perception.

The answer came to me as a gestalt: hinges would make the angles for me and be a strong and excellent connector for the plates. After that epiphany, keeping the plates identical; 20 hexagons, 12 pentagons. Beyond the preparation of the plates it was endless screwing and insertion of T-nut anchors. I have taken it to several Maker Faires and plan to present at World Maker Faire in New York this September.

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